
Preliminary Research Symposium Program - Subject to Change
(Last updated: November 14, 2002)

California Department of Food and Agriculture

Pierce's Disease Program

Research Symposium, December 15 – 18, 2002
San Diego, California

December 15 (Sunday)

4:00 pm Registration Desk Opens

7:00 pm Registration Desk Closes

December 16 (Monday)

7:30 am Registration Desk Opens

8:30 Welcome and Introductory Remarks
Bob L. Wynn, Jr., Statewide Coordinator

8:40 Secretary's Remarks
William (Bill) J. Lyons, Jr., Secretary CDFA

Session 1: Breeding Cultivars of Grape Resistant to Pierce's Disease

Moderator: Mike Parrella

8:45 Virulence Analysis of the Pierce's Disease Agent *Xylella fastidiosa*
George Bruening

9:00 am Functional Genomics of the Grape-*Xylella* Interaction: Towards the Identification of Host
Resistance Determinants
Francisco Goes-da-Silva (for Douglas Cook)

9:15 The Genetics of Resistance to Pierce's Disease
Andy Walker

9:30 An Expanded Genetic Map of *Vitis rupestris* x *Muscadinia rotundifolias*
for Fine Scale Mapping and Characterization of Pierce's Disease Resistance
Andy Walker

9:45 Application of *Agrobacterium rhizogenes*-Mediated Transformation Strategies for a)
Rapid High Through Put Screen for Genetic Resistance to Pierce's Disease in Grape that
Maintains Clonal Integrity of the Recipient Host, and b) Rapid Screening for Virulence
Determinants in *Xylella fastidiosa*

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David Gilchrist

10:00 am Summary
Abhaya Dandekar
10:15 Panel Discussion

10:30 Break

Session 2: Biological Control of Pierce's Disease

Moderator: Ted Batkin

10:45 Role of *Xylella fastidiosa* Attachment on Pathogenicity
Steven Lindow

11:00 am The *Xylella fastidiosa* Cell Surface
Michele Igo

11:15 Understanding *Xylella fastidiosa* Colonization and Communication in Xylem Lumina
Harvey Hoch

11:30 The Role of Cell-Cell Signaling in Host Colonization by *Xylella fastidiosa*
Steven Lindow

11:45 Biological Control of Pierce's Disease with Non-pathogenic Strains of *Xylella fastidiosa*
Donald Cooksey

12:00 noon Lunch

1:00 pm Control of Pierce's Disease Through Degradation of Xanthan Gum
Donald Cooksey

1:15 Insect-Symbiotic Bacteria Inhibitory to *Xylella fastidiosa* in Sharpshooters: Genetic Transformation of Endophytic Bacteria for Paratransgenesis
David Lampe (for Thomas Miller)

1:30 Insect-Symbiotic Bacteria Inhibitory to *Xylella fastidiosa* in Sharpshooters: Pressure Bomb Extraction of Xylem Fluid to Improve Bacterial Detection of *Xylella* in Plants
Blake Bextine (for Thomas Miller)

1:45 Insect-Symbiotic Bacteria Inhibitory to *Xylella fastidiosa* in Sharpshooters: Identification of Endophytic Bacteria Cycled by GWSS to Host Plants
Carol Lauzon (for Thomas Miller)

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2:00 pm Summary
 Don Cooksey

2:15 Panel Discussion

2:30 Break

Session 3: Genetics of Xylella fastidiosa/Miscellaneous
Moderator: Ed Civerolo

2:45 Surrogate Genetics for *Xylella fastidiosa*: Regulation of Exopolysaccharide and Type IV Pilus Gene Expression
 Valley Stewart

3:00 pm Genetic Transformation to Improve the Pierce's Disease Resistance of Existing Grape Varieties
 Cecilia Aguero (for Carole Meredith)

3:15 Production and Screening of *Xylella fastidiosa* Transposon Pathogenicity and Attachment Mutants
 Bruce Kirkpatrick

3:30 Sequence of *Xylella fastidiosa* Strain Causing Pierce's Disease of California Grapevine
 Ed Civerolo

3:45 Biological, Cultural, Genetic, and Chemical Management of Pierce's Disease: Xylem Fluid Chemistry Mediation of Pierce's Disease Resistance.
 Peter Andersen

4:00 pm Genome-Wide Identification of Rapidly Evolving Genes in *Xylella fastidiosa*: Key Elements in the Systematic Identification of Host Strains, and in the Search for Plant-Host Pathogenicity Candidate Genes
 Leonard Nunney

4:15 Biological, Cultural, Genetic, and Chemical Management of Pierce's Disease: Fate of *Xylella fastidiosa* in Weeds, Cover Crops, and Adjacent Vegetation
 Sandy Purcell / Ed Weber

4:30 Biological, Cultural, Genetic, and Chemical Management of Pierce's Disease: Transformation and Molecular Analysis of *Xylella fastidiosa*.
 Bruce Kirkpatrick / Kendra Baumgartner

4:45 Biological, Cultural, Genetic, and Chemical Management of Pierce's Disease: Breeding

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Pierce's Disease Resistant Table and Raisin Grapes
Andy Walker

5:00 pm Summary
George Bruening

5:15 Panel Discussion

December 17 (Tuesday)

7:30 am Registration Desk Opens

Session 4: Epidemiology of Pierce's Disease

Moderator: Bob Webster

8:00 am Characterization and Studies on the Fundamental Mechanisms of *Xylella fastidiosa*
Transmission to Grapevines by the GWSS
Sandy Purcell

8:15 Mechanisms of Pierce's Disease Transmission in Grapevines: An Analysis of the
Pathways and Movement of *Xylella fastidiosa*
Thomas Rost

8:30 The Development of Pierce's Disease in Xylem: The Roles of Vessel Cavitation, Cell Wall
Metabolism and Vessel Occlusion
John Labavitch

8:45 Epidemiology of Pierce's Disease in Southern California: Identifying Inoculum Sources
and Transmission Pathways
Donald Cooksey

9:00 am Sharpshooter Feeding Behavior in Relation to Transmission of Pierce's Disease Bacterium
Elaine Backus

9:15 Epidemiology of Pierce's Disease in the Coachella Valley
Thomas Perring

9:30 Role of Type I Secretion in Pierce's Disease
Dean Gabriel

9:45 Break

10:00 am Epidemiological Assessments of Pierce's Disease

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Barry Hill

10:15 Summary
Barry Hill

10:30 Panel Discussion

Session 5: Biological Control of GWSS

Moderator: Joseph Morse

10:45 A Monoclonal Antibody Specific to GWSS Egg Protein: A Tool for Predator Gut
Analysis and Early Detection of Pest Infestation
James Hagler

11:00 am Effect of Rearing Density on the Development and Reproductive Biology of GWSS
Isabelle Lauziere

11:15 Development of an Artificial Diet for the GWSS
Allen Cohen

11:30 Biocontrol of GWSS in California: One Cornerstone for the Foundation of an IPM
Program
Nick Irvin (for Mark Hoddle)

11:45 Classical Biological Control of *Homalodisca coagulata*
Walker Jones

12:00 noon Lunch

1:00 pm Cold Storage of Parasitized and Unparasitized Eggs of GWSS
Roger Leopold

1:15 Is the GWSS Parasitoid *Gonatocerus ashmeadi* (Hymenoptera: Mymaridae) One
Species or a Complex of Morphologically Indistinguishable Species?
Mark Hoddle

1:30 Summary
David Morgan

1:45 Panel Discussion

Session 6: Biology, Ecology and Direct Impact of GWSS

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Moderator: Cliff. Ohmart

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| 2:00 pm | Biology and Ecology of GWSS in the San Joaquin Valley
<i>Kent Daane</i> |
| 2:15 | GWSS Impact on Citrus Yield, Fruit Size and Quality
<i>Raymond Hix</i> |
| 2:30 | Seasonal Changes in the GWSS Age Structure, Abundance, Host Plant Use and Dispersal
<i>Robert Luck</i> |
| 2:45 | Spatial and Temporal Relations Between GWSS Survival and Movement, Xylem Flux Patterns and Xylem Chemistry in Different Host Plants
<i>Robert Luck</i> |
| 3:00 pm | Keys to Management of GWSS: Interactions Between Host Plants, Malnutrition and Natural Enemies
<i>Russell Mizell</i> |
| 3:15 | Mating Behavior of the GWSS, <i>Homolodisca coagulata</i>
<i>Randy Hunt</i> |
| 3:30 | Break |
| 3:45 | Reproductive Biology and Physiology of the GWSS
<i>Christine Peng</i> |
| 4:00 pm | Ultrastructural Contributions to the Study of the GWSS and Pierce's Disease
<i>Tom Freeman</i> |
| 4:15 | Relationship Between Total Population Counts of GWSS and Numbers Obtained from Various Sampling Methods
<i>Matt Blua</i> |
| 4:30 | Developing a Method to Detect <i>Xylella fastidiosa</i> in GWSS
<i>Matt Blua</i> |
| 4:45 | Developing a Suitable Classification of the GWSS genus <i>Homalodisca</i>
<i>Stuart McKamey</i> |
| 5:00 pm | Grapevine Resistance to the GWSS and <i>Xylella fastidiosa</i>
<i>Jiang Lu</i> |

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- 5:15 Sampling, Seasonal Abundance and Distribution of GWSS in Citrus and Grapes:
 Dispersal Progress Report
 Jacquelyn Blackmer
- 5:30 Summary
 Sandy Purcell
- 5:45 Panel Discussion

December 18 (Wednesday)

- 7:30 am Registration Desk Opens

Session 7: Use of Pesticides and Alternative Treatments to Control GWSS/PD
Moderator: Drew Johnson

- 8:00 am Impact of Sub-Lethal Doses of Neonicotinoids on GWSS Feeding and Transmission of
 Pierce's Disease
 Matt Blua
- 8:15 Potential of Conventional and Biorational Insecticides for GWSS Control
 David Akey
- 8:30 Alternatives to Conventional Chemical Insecticides for Control of GWSS
 Gary Puterka
- 8:45 Chemical Control of GWSS: Establishment of Baseline Toxicity and Development of
 Monitoring Techniques for Detection of Early Resistance to Insecticides
 Nick Toscano
- 9:00 am Laboratory and Field Evaluations of Imidacloprid and Thiamethozam against GWSS on
 Citrus and Grapes
 Nick Toscano
- 9:15 Efficacy of Insecticides Used for GWSS Control in Citrus Nursery Stock
 Elizabeth Grafton-Cardwell
- 9:30 Rootstock Influence on Pierce's Disease
 Peter Cousins

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9:45 Summary
 Elizabeth Grafton-Cardwell

10:00 am Panel Discussion

10:15 Break

Session 8: Monitoring and Database Management

Moderator: Patrick Gleeson

10:30 Sampling, Seasonal Abundance and Distribution of GWSS in Citrus and Grapes:
Monitoring Progress Report
Steve Naranjo (for Steve Castle)

10:45 Development of Trapping Systems to Trap the GWSS, *Homalodisca coagulata*, Adults
and Nymphs in Grape
Raymond Hix

11:00 am Spatial Distribution of GWSS in a Diverse Agricultural System and Correlation Between
Direct Observations and Sticky Trap Data
Dave Bartels

11:15 Plant-GWSS Interactions: Physiological and Biochemical Mechanisms Involved in Host
Plant Selection with Particular Reference to Lemon and Orange Trees
Nick Toscano

11:30 Area Wide Management of the GWSS in the Temecula Valley
Raymond Hix (Nick Toscano)

11:45 Impact of Layering Control Tactics on the Spread of Pierce's Disease by the GWSS
Rick Redak

12:00 noon Lunch

1:00 pm Mycopathogens and Their Exotoxins Infecting GWSS, Survey, Evaluation and Storage
Russell Mizell

1:15 Exploration for Facultative Endosymbionts of Sharpshooters
Sandy Purcell

1:30 The Areawide Pest Management of GWSS in Kern County
Lloyd Wendel

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1:45	Monitoring and Control Measures for Pierce's Disease in Kern County <i>Jennifer Hashim</i>
2:00 pm	Summary <i>Dave Bartels</i>
2:15	Panel Discussion
2:30	Concluding Remarks <i>Robert L. Wynn, Jr., Statewide Coordinator</i>
2:45	Adjourn